

Trace Organic Compounds in Biosolids—Key Points

- 1) Biosolids have been successfully applied in the state for decades with no documented adverse impacts on human health or the environment.
- 2) Biosolids are highly valued by many in the state—especially farmers—because they contain all of the essential plant nutrients and significantly improve soil quality. Biosolids have been shown to significantly improve plant growth and quality, increase the ability of sandy soils to hold water, improve drainage in clayey soils, and decrease both wind and water erosion.
- 3) Ecology is concerned about the potential impact on human health and the environment from some of the trace organic compounds that have been found in biosolids. Other state agencies, the USEPA, other federal agencies, and the biosolids producers are concerned as well. The result of this concern is that new research is being planned and numerous studies are being conducted to evaluate the potential risk.
- 4) Given the information currently available, we believe the state's biosolids regulation adequately protects human health and the environment while still allowing for the beneficial use of the various biosolids products available in the state.
- 5) We feel confident that the potential risk to human health or the environment from trace organic compounds in biosolids is extremely small for several reasons, including the following:
 - Most of the concentrations found appear to be quite low.
 - Most of the compounds appear to be tightly bound to the biosolids/soil mixtures (the fact that they are in the biosolids in the first place rather than being discharged with wastewater is evidence of this binding).
 - Only a tiny fraction of land in the state receives biosolids (e.g. less than 0.1% of agricultural land receives biosolids in a given year, and this is by far the predominant use of biosolids across the state).
- 6) If future studies show an undue risk to human health or the environment from biosolids, we can and will revise our biosolids permits to address the concerns.
- 7) It should be recognized that most of the trace organic compounds that have been found in biosolids are there as a result of the production and use of products containing the compounds (e.g. shampoos, laundry detergents, hand sanitizers, clothing, furniture, medications). For example, PBDEs (flame retardants) have been found in biosolids. However, the concentrations found in biosolids are a fraction of the concentrations found in some everyday products (e.g. 2 ppm in biosolids vs. up to 300,000 ppm in foam chairs).
- 8) Since most of us are in contact with many of these compounds almost constantly in our everyday lives, it's reasonable to expect that if there's any risk at all from biosolids, then the risk from our everyday activities will be much, much higher.
- 9) The best way to reduce trace organic compounds in biosolids is to get more of them out of the materials we use in our households, businesses and consumer products. This is known as source reduction. Once the compounds are in the waste stream, it's an enormous and very costly challenge to remove them.
- 10) A good example of the impact of source reduction programs can be found in examining data on mercury in biosolids. The data suggest a significant drop in mercury in biosolids following the implementation of mercury reduction programs. For example, the data indicate that a concerted mercury reduction program in King County has decreased mercury in their biosolids by 60-80 pounds per year in just a few years.